A WATER AUTHORITY'S CONSERVATION PROGRAM - ITS ROLE WITH THE GEORGIA WATER WISE COUNCIL

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INTRODUCTION

Water conservation as a means of leveling summer peak demands is becoming a topic of interest amongst water utilities throughout Georgia. The purpose of this presentation is to highlight one water authority's water conservation efforts, and its interface with the private sector through the Georgia Water Wise Council.

BACKGROUND

In 1988, the Cobb County-Marietta Water Authority (the Authority) had completed a Long Range (50 year) Water Supply Master Plan (Cobb County-Marietta Water Authority, 1988). Water Demand projections indicated almost a doubling of demand in 20 years and tripling in 50 years. As a supply option, water conservation was as much as twenty times cheaper than increasing plant capacity and offering the potential of decreasing peak demand by 15-20%.

In Georgia, the use of low-flow water fixtures as a means of water conservation inside the home is well established. Low-flow plumbing legislation was originally enacted in 1980 and stricter measures for new construction were recently passed (H.B. No. 1827) effective July, 1991. The new specifications are that toilets not exceed 1.6 gallons per flush and urinals 1 gallon. Also, showerheads and kitchen faucets cannot exceed 2.5 gallons per minute and bathroom and lavatory faucets 2 gallons.

Outdoor or landscape water conservation, on the other hand, has historically not been given much attention. The Master Plan indicated, however, that it offered the Authority its quickest and least expensive water conservation program, while providing the largest reduction in maximum day demand. Figure 1 shows the Authority's maximum day demand for 1988, a dry rain year. Note that the last 15% of plant capacity was used only fourteen days. Figure 2 shows the same demand data for 1989, a wet rain year. The last 15% of plant capacity was never used. It is the objective of the landscape water

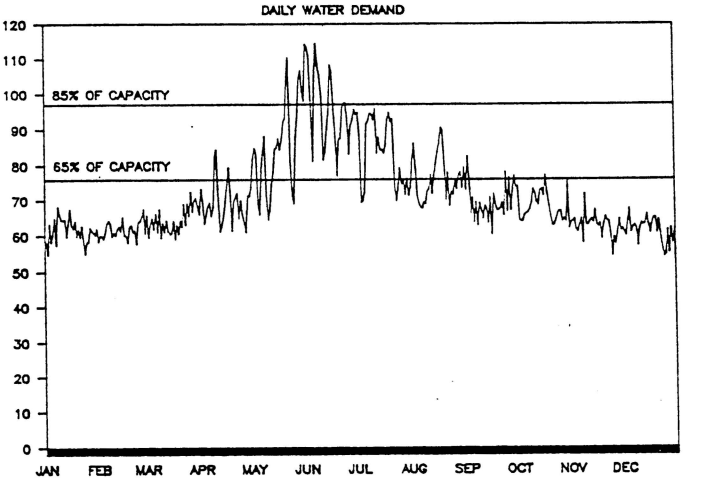

Figure 1. Daily water demand (in MGD) for Cobb County Marietta Water Authority during 1988, a dry year.

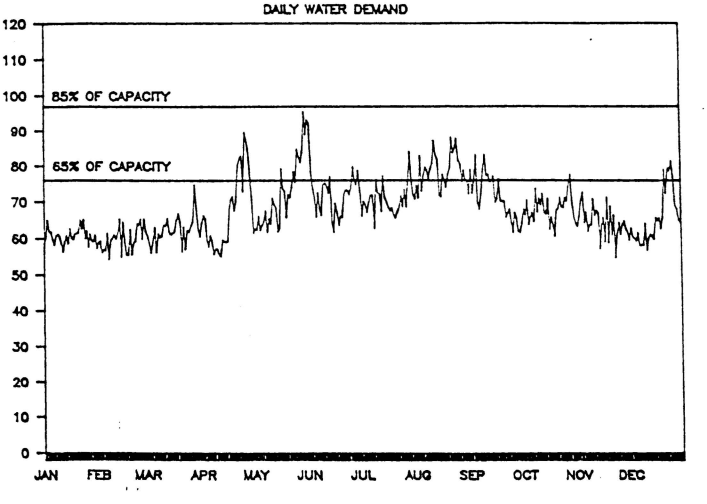

Figure 2. Daily water demand (in MGD) for the Cobb County Water Authority during 1989, a wet year.

conservation program to level these summer water demand peaks.

In researching utility water conservation programs within the state, it was found there were programs only for restricting outdoor water use during emergency situations such as a drought. Utility water conservation education programs or promotional campaigns did not exist. Additionally, there was no organizational structure in place which represented all interested agencies affected by water shortages. Educational literature consisted only of a two-page fact sheet on Xeriscaping that had been prepared by the University of Georgia Cooperative Extension Service.

INITIAL CONSERVATION ACTIVITIES

Because of this lack of public awareness concerning outdoor water use in Georgia and their not being a broad-based organizational structure to promote conservation practices, the Authority began a program of its own in 1988. Initial activities included the following:

1. In the 1988-89 school year, the Authority sponsored a poster billboard contest for 7,200 students in 30 grammar schools. The purpose of the contest was to raise the awareness level of water conservation in the Authority's service area. Basic conservation lessons were taught to Kindergarten through 2nd grades, and 3rd through 5th grades. The students then drew posters from which 150 finalists were judged. Sixteen winners from each grade group had their posters made into billboards, which were displayed over a 3-month period in the summer of 1989.

2. To set an example in its service area, the Authority had its new administrative building designed with a drought tolerant landscape. A review of the proposed landscape plan was then performed by a specialist in water resource site development. Minor changes were made in the design. Some turf was replaced with mulch and shrubs, and out of the way trees and shrubs were replaced with wild flowers. These changes resulted in water savings of 23 percent over an already drought tolerant landscape with no effect on the aesthetics of the original plan.

3. The Authority hired a water conservation coordinator with a background in horticulture, education, and public affairs. The coordinator was given the responsibility of developing water conservation programs with a major emphasis on landscape watering. The coordinator was encouraged to participate in professional groups and to support activities that would further the Authority's water conservation goals.

4. The Authority adopted the Xeriscape concept as the means for implementing a landscape water conservation program. A concern has been that Xeriscape would cause a reduction in revenues to the utility. This would not affect a utility in a growth area, since reductions in revenues due to Xeriscape would be more than made up by increased revenues from growth. The results of Xeriscape are not expected to be felt for at least five years, because of the time required to educate people and to affect behavior modification.

OTHER CONSERVATION INITIATIVES

The Authority, in association with other metro-Atlanta water utilities, supported Cottage Productions, Inc., an environmental education firm in the production of a 1-hour Xeriscape TV program, "Smart Landscape, Great Gardens", aired on Public Broadcasting System's Channel 8 on September 30, 1989. It was rebroadcast on April 7, 1990.

The Authority's water conservation coordinator served as the original Chairperson of the Xeriscape committee of the Georgia Water Wise Council. He is now the Council's president. He is also a board member of the National Xeriscape Council and serves on the AWWA Water Conservation Management Committee. This networking keeps the Authority abreast of the latest developments in water conservation, allowing for quick follow-through on new ideas or projects.

Other conservation activities initiated by the Authority include (1) the establishment of a press and speakers bureau; (2) the establishment of a library on water conservation material from throughout the country; and (3) assistance to the Authority's 14 wholesale customers in the formation or execution of their local water conservation programs.

CREATION OF THE GEORGIA WATER WISE COUNCIL

As a result of the 1988 drought the Green-Industry represented by the Georgia and Metro-Atlanta Nurserymen, Irrigation, Landscape and Turf associations recognized that the public needed to be educated on good horticulture practices to conserve water. At the same time the Cooperative Extension Service was looking for a means to broadly disseminate the principles of Xeriscaping that it had adapted to Georgia.

The Authority joined forces with these organizations in December 1989 and formed the Georgia Water Wise Council. It is a non-profit educational organization with the purpose of promoting water conservation and sound water management practices in Georgia. The Authority now had a structure from which it could develop and gain support for its water conservation education programs.

One of the first projects of the Authority and the Georgia Water-Wise Council is the sponsorship of a 32-page book on Xeriscape and its applicability to Georgia. The publication is being prepared by the cooperative

Extension Service. Distribution of the book will be through a multi-faceted system. A draft of the book is to be initially distributed to interested utilities, wholesale and retail nurseries, landscape contractors and others as appropriate. Comments on the content are to be requested and forwarded to the Extension Service writers. Initial solicitation is also to be made for co-sponsors. Costs will be moderate, approximately 69 cents each for 500 copies and 59 cents each for 5,000 copies. This enables the publication to be a public service giveaway by co-sponsoring entities. Co-sponsors will receive a credit line in the publication.

Another major effort of the Authority and the Georgia Water-Wise Council is the formation of a committee to develop a model landscape water conservation code. It is not intended that this code be mandatory for government entities, but to provide the best model code applicable to Georgia, should one be desired by the local community. This code is to be adapted by local municipalities to their geographic and climatic conditions. A key recommendation is for all new public buildings and facilities to have Xeriscapes, as an example to the private sector.

In April-May 1991, the Council is sponsoring with the Georgia Green Industry, Georgia Dept of Natural Resources, the Georgia County Commissioners Association, Georgia Water & Pollution Control Association, the Urban Forestry Council and the Cooperative Extension Service amongst others training in eight cities throughout Georgia. The purpose of the Program is to develop a broad based core group for a local planning/action committee or advisory task force to implement a long-term water use plan to include water conservation education.

The Council is also working with the University of Georgia to establish summer internships for horticulture and landscape architect students. The interns would be sponsored by the local water utility, but work from the local cooperative extension office to perform landscape water audits for the homeowner.

The Georgia Water-Wise Council has made numerous water conservation presentations to school classes, garden groups, and professional organizations, and has had displays at trade shows, professional conferences, and a variety of ecology activities such as Earth Day. In addition to being covered by local newspapers, the Georgia Water-Wise Council writes columns on a monthly basis for publication in Green Industry and Utility Association publications as well as garden club newsletters.

SUMMARY

The Authority's desire to include water conservation as an integral component of its long-range water supply plan and its sponsorship of activities related to public education and technical assistance on the subject has resulted in it being recognized as one of the leaders of public utilities in water conservation in the State of Georgia. The Authority's association with the Georgia Water-Wise Council has focused the efforts of a consortium of many disparate entities on water conservation as a solution to future water supply problems.

RECOMMENDATION

All utilities that have summer peak demand problems should consider Xeriscape as their educational means in addition to rate structure and water restrictions in reducing this problem. In addition to joining a statewide organization such as the Georgia Water Wise Council, the utility should form a local advisory group to include extension service and private and public entities to support a broad based water conservation education program.

LITERATURE CITED

Cobb County-Marietta Water Authority, December 1988. Long Range Water Supply Master Plan. Brown and Caldwell Consulting Engineers.

House Bill Number 1827 by: Representatives Isakson of the 21st, Heard of the 43rd, and Byrd of the 153rd., as passed in 1990 by the Georgia House and Senate.